Utah Regulatory Program Evaluation Evaluation Year 2002

Evaluation Topic:

Electric Powerlines: Design and Construction to Minimize Hazards to Raptors

Team Members:

Tonya Buckmaster (OSM-WRCC), Pete Hess (Utah-DOGM), Howard Strand (OSM-WRCC), and Susan White* (Utah-DOGM)

Others Assisting in Evaluation: Jim Burruss (PacifiCorp), Sherry Liguori (HawkWatch International), Leroy Mead (Utah-DWR), Mike Glasson (Andalex), Kerry Larsen (Energy West), Gary Gray (Andalex)

Goals of the Surface Mining Control and Reclamation Act of 1977 and the Utah Mined Land Reclamation Act:

- Section 516(b)(11) of SMCRA requires that each permit issued under any approved State or Federal program require the operator to the extent possible using the best technology currently available, minimize disturbances and adverse impacts of the operation on fish, wildlife, and related environmental values, and achieve enhancement of such resources.
- 30 CFR 817.97(e)(1) Each operator shall, to the extent possible using the best technology currently available- Ensure that electric powerlines and other transmission facilities used for, or incidental to, underground mining activities on the permit area are designed and constructed to minimize electrocution hazards to raptors, except where the regulatory authority determines that such requirements are unnecessary.
- U.C.A.40-10-8-(13) of the Utah Code requires to the extent possible using the best technology currently available, minimize disturbances and adverse impacts of the operation on fish, wildlife, and related environmental values, and achieve enhancement of such resources where practicable.
- R645-301-358.510 Ensure that electric powerlines and other transmission facilities used for, or incidental to, coal mining and reclamation operations on the permit area are designed and constructed to minimize electrocution hazards to raptors, except where the Division determines that such requirements are unnecessary.

Reason for Topic Selection:

Raptor safe powerlines are a performance standard for all coal mines. Unfortunately, electrocution by powerlines is a documented cause of mortality for bald and golden eagles and other raptors. Powerline safety is an ever-changing technology and on the ground compliance should be periodically assessed.

Evaluation Focus:

The team is evaluating this topic under the primary objective of OSM Directive REG-8 for determining whether the Utah-DOGM is ensuring that offsite impacts are prevented. The focus of this evaluation is on-the-ground results.

Planned Review:

- 1. Familiarize the team with the types of electrical structures that are safe and not safe for raptors. This will be done through literature reviews, discussions, and a video.
- 2. Obtain the HawkWatch International data sheet to assess raptor electrocution risks.
- 3. Determine the number of mines the team has time to visit. Selection of mines will be based on likelihood of raptor use. Only active mines will be selected for this evaluation.
- 4. Invite and notify appropriate agency wildlife personnel, mine inspectors, and mine operators of site evaluation.
- 5. Attend training on June 10, 2002 provided by Utah Power and Light and HawkWatch International.
- Visit Wildcat Loadout, Deer Creek Mine, Savage Loadout and West Ridge Mine recording all necessary data on HawkWatch International Raptor Electrocution Reduction Program Data Sheet.
- 7. At the site visit inform mine operators of any potential modifications to the electrical distribution system.
- 8. Finalize report and make necessary findings.

Review Schedule:

March and April, 2002 Gather and review literature on raptor safe powerlines.

June 10 and 11, 2002 Attend training and visit mine site. Collect data according to Hawk

Watch Internal's protocol.

June 30, 2002 Have all data summarized.

July 30, 2002 Draft report.

August 30, 2002 Final report.

Findings:

Training

PacifiCorp and HawkWatch International presented training on raptor electrocution on June 10, 2002. PacificCorp holds an interest in raptor protection due to an extensive network of 45,000 miles of power lines that have the potential, if unsafe, to electrocute raptors of larger sizes. HawkWatch International is a non-profit organization whose mission is to monitor and protect hawks, eagles, other birds of prey and their environments through research, education and conservation.

The Office of Surface Mining (OSM), Division of Oil Gas and Mining (DOGM), U.S. Fish and Wildlife Service, Bureau of Land Management, and various mine operators attended the training (Appendix A). The *Raptor Electrocution Reduction Program (RERP) Training Manual* and the HawkWatch RERP Data Sheet 2002, written by PacifiCorp and HawkWatch International, were distributed to each attendee. The manual and training included information on types of power lines, distribution structures, and raptor identification.

Raptors most susceptible to electrocution from power poles are those with large wingspans preferring open-country habitat such as: Golden Eagles, Red-tailed Hawks, Ferruginous Hawks, and Great Horned Owls. Types of open-country habitats used by raptors are sage deserts, grasslands, agricultural areas, and pastures. If the habitat not only consists of open-country, but of a large prey base and few perching locations, raptors will use power poles for roost sites, nesting platforms, and hunting perches.

The Avian Power Line International Committee in 1996 recommended a minimum of 60 inches between phases and/or neutral ground wires for safe perching of large raptors. Inadequate spacing between the energized parts of a power pole make it "unsafe" and a higher risk. There are two main categories of power poles: distribution and transmission lines. Higher voltage transmission lines are often constructed with large spacing between energized parts, while lower voltage distribution lines are not. Distribution lines are evaluated for raptor safety more often for this reason.

PacifiCorp and Hawkwatch representatives stressed to the group the importance of performing a risk analysis to determine if there is a need to retrofit an existing power pole for raptor safety. HawkWatch's RERP Data Sheet 2002 prompts the site evaluator to document habitat, prey base, use of power poles or presence of species, and the safety of each pole, with respect to raptors. Each of these factors is an element in determining whether or not a structure poses a high risk to raptors. Retrofitting of the power structure is necessary if a high risk is determined. If a power structure is not used by raptors, retrofitting the pole to eliminate the raptor electrocution hazard is not recommended

Evaluation

The evaluation of power structures was performed on June 10 and 11, 2002 and included four mine sites: Wildcat Loadout, Deer Creek Mine, Savage Loadout, and West Ridge Mine. Each assessment looked at the distribution lines controlled by the mines originating at the mine's substation. The substations were not evaluated. HawkWatch's RERP Data Sheet 2002 was used during each site assessment. Datasheets were completed for each power pole (Appendix B) and a picture of the structure was taken (Appendix C).

Wildcat Loadout

At Wildcat Loadout, seven structures were evaluated for raptor safety. The main types of poles identified were three-phase/pole mounted insulators, and three-phase/crossarm lowered.

The site presented a low risk to raptors due to a lack of habitat and a lack of visible use or presence of species at the mine site. Table 1 displays a summary of the data sheets for the structures assessed.

Deer Creek Mine

Deer Creek maintains eleven power structures. The types of structures identified were three-phase, three-phase/crossarm lowered, and corner poles. Several of the poles supported complicated transformer and fuse arrangements.

The site presented a low risk to raptors due to a lack of habitat and a lack of visible use or presence of species at the mine site. Table 1 displays a summary of the data sheets for the structures assessed.

Savage Loadout

At Savage Loadout, eight structures were evaluated for raptor safety. The types of structures identified were three-phase, with several of the poles supporting transformers. Two structures were retrofitted with perch guards, however, these guards were not suitable for the structure and did not eliminate the electrocution hazard.

The site presented a low risk to raptors due to a lack of habitat and a lack of visible use or presence of species at the mine site. Table 1 displays a summary of the data sheets for the structures assessed.

West Ridge Mine

West Ridge does not maintain any above ground distribution lines. Therefore, the mine has eliminated electrocution risk to raptors from this evaluations standpoint. The only above ground power structure was the substation, which was not evaluated.

Table 1. Evaluation Results

Mine Habitat	Use By or	Presence	Number of	Number of
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		Presence of Species?	of Prey Base?	Safe Structures	Unsafe Structures
Wildcat Loadout	Rural mine site/ revegetated salt desert scrub within ¼ mile	No	No	2	5
Deer Creek Mine	Rural mine site	No	No	6	5
Savage Loadout	Rural mine site	No	No	1	7
West Ridge Mine	Rural mine site	No	No	NA	NA

Conclusions and Recommendations:

The team's recommendations are as follows:

- Although numerous unsafe structures were present on three of the mine sites, the risk to raptors from electrocution is extremely low. All of the power poles at each of the sites displayed "no use" by raptors. While habitat surrounding the mine has the possibility for supporting raptors and their prey, the characteristics of a typical mine site do not encourage raptor use. With this negligible risk, it is not recommended that the mines investigate retrofitting their existing power structures.
- If the mines were to enter into temporary cessation, the lack of disturbance from mine operations may create a habitat more desirable for raptors and their prey. The Division should perform a raptor safety risk analysis when notified by a mine of temporary cessation. Other means of prevention, such as disengaging legs of the respective system not needed during cessation, should be evaluated.
- Each mine inspector should be made aware of the problems concerning raptor electrocution and be alert and watch for an increase in use of power structures by raptors for perching or nesting activities.
- When possible, new power structures placed on the mine should be designed and constructed to be raptor safe. The implementation of such a practice will eliminate the need for future evaluation of the structure concerning raptor electrocution. West Ridge is a good example of reducing potential hazards before they occur. By installing power lines underground, they have eliminated this safety issue. This type of practice is highly recommended.

The team evaluated this topic under the primary objective of OSM Directive REG-8 for determining whether Utah-DOGM is ensuring that offsite impacts are being prevented. From

this evaluation the team concluded that DOGM is satisfying the goals of the Utah Mined Land Reclamation Act regarding minimizing electrocution hazards to raptors.
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Appendix A

Training Attendees

<u>Name</u> <u>Affiliation</u>

Paul Baker Utah ArchCoal Gary Taylor Chuck Semborski Pacificorp Tonya Buckmaster **OSM Howard Strand OSM** Pacificorp Kerry Larsen Peter Hess Utah Mike Glasson Andalex Tim Faircloth **BLM BLM** Steve Madsen Diana Whittington **FWS**

Sherry Liguori HawkWatch
Mark Reynolds Co-Op Mining
Vicky Miller ArchCoal
Stephen Demczak Utah
Stephanie Dunlap Utah
Susan White Utah

Appendix B

HawkWatch International Raptor Electrocution Reduction Program

RERP Data Sheet 2002

Deer Creek.

Date 6-1/- 82

7-Buckmaster

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IF A MORTALITY WAS DOCUMENTED, CHECK HERE _____ IF POLE HAS RAPTOR PROTECTION BUT IS NOT RAPTOR-SAFE, CHECK HERE_

District		Circuit_			Line N	Vame	
HABITAT TYPE (Ci	rcle. If more t	han one apply, inc	licate percent	of each.)			
Sagebrush/Shrub/Grass	Dry meadow	Cropland/Pasture	Salt desert scri	ub Barren	Riparian	Residential/developed	1
Mountain shrub	Pinyon/Juniper	Spruce/Fir/Aspen	Wet meadow	Mudflat	Open water	Other: Mike	:
Is the area: remote	fural subur	ban					
POLE LOCATION/I	DENTIFICAT	ION:				Missing Plate? Y	es
Structure Numbers (inc	clude both)						
Coordinates (UTM Zor	ne 12): <u>E</u>			N		Units: meters	s feet
POLE CONFIGURA	TION (Circle	one. If pole does r	ot match any	shown, dra	w it on othe	er side of sheet.)	
				Total no. 6	energized co	onductors 3	ases in each
no arconomo	e phase Two	phase Thr	ee-phase			ers ts (such as transform	more
•		AZ				nper wires) Yes	
				Crossarm	material:_	wood metal fiber	rglass
	•	i i	4			rial: wood metal	fiberglass
II •	124	т	hree-phase		of ground wi		_
crossarm lowered two lines	on one side, lin	ee-phase with two sees on each side,	streamline			At or above cro	
neut	ral down	neutral up	٠		-		ing cap
				Insulator co		h guard Perch ets Whitewash Pre	y remains
				Are there	live raptors,	, mortalities, nests, o	r pole
				damage	No Yes*	* (*if yes, continue	on other
M Corner pole	Three-phas YS-configura	111100-01		side)			

PacifiCom/District Manager

Broken crossarm

Leaking transformer

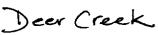
Broken insulator

Damaged identification plate Missing identification plate **MORTALITIES/INJURIES** Number individuals _____ Distance to nearest pole (ft.)_____ Status: dead injured Species (circle one): Red-tailed Hawk Ferruginous Hawk Swainson's Hawk Golden Eagle Bald Eagle Osprey Peregrine Falcon Prairie Falcon Merlin American Kestrel Great Horned Owl Common Raven American Crow Unknown Shot Roadkill Other: ____ Cause of death/injury: Unknown Electrocution Evidence of electrocution: Burnt feathers Burnt talons Burnt bill Exit wound Other: Status of carcass/remains: Buried Collected Left on-site Band number (if applicable) Directions Photo number _____Camera number _____ LIVE SPECIES OBSERVED Species (indicate number of individuals): Red-tailed Hawk_____ Ferruginous Hawk_____ Rough-legged Hawk _____ Swainson's Hawk ____ Golden Eagle ____ Bald Eagle ____ Peregrine Falcon ___ Prairie Falcon Merlin American Kestrel Osprey Northern Harrier Barn Owl Great Horned Owl___Common Raven___ Unknown hawk___ Unknown eagle___ Unknown___ Behavior (check all that apply, indicate species): Flying/Hunting Courtship Perched on Power Pole_____ Perched in Tree/Cliff/Ground Other:____ Nest?_____ Is nest active? Yes No Pole Diagram: NOTES Location of carcass For HWI use only: FWS Agent____ PacifiCorp/Environmental____ Date

Broken/burned/leaning pole Broken guywire

HawkWatch International Raptor Electrocution Reduction Program

RERP Data Sheet 2002



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IF A MORTALITY WAS DOCUMENTED, CHECK HERE _____
IF POLE HAS RAPTOR PROTECTION BUT IS NOT RAPTOR-SAFE, CHECK HERE

District Circuit	Line Name
HABITAT TYPE (Circle. If more than one apply, income Sagebrush/Shrub/Grass Dry meadow Cropland/Pasture Mountain shrub Pinyon/Juniper Spruce/Fir/Aspen Is the area: remote rural suburban	
POLE LOCATION/IDENTIFICATION:	Missing Plate? Yes
Structure Numbers (include both)	
Coordinates (UTM Zone 12): E	N Units: meters feet
POLE CONFIGURATION (Circle one. If pole does in	Is structure raptor safe? Yes No Total no. energized conductors 3-3 (if corner pole or underbuilt, indicate number phases in each direction, i.e. 3-3 or 3-2-1)
Single phase Single phase Two phase Th with crossarm	Number of transformers Are there exposed parts (such as transformers, cutouts, arresters, jumper wires)? Yes No
	Crossarm material: wood metal fiberglass Crossarm brace material: wood metal fiberglass Location of ground wire: Below crossarm At or above crossarm
Three-phase Three-phase with two crossarm lowered two lines on one side, neutral down Three-phase with two lines on each side, neutral up	Circle all that are present: Hose Bushing cap
Corner pole Three-phase Three-phase YS-configuration pole-mounted	·

Broken insulator Broken crossarm

Broken crossarm Leaking transformer

Broken/burned/leaning pole Broken/burned/leaning pole

Broken guywire

Missing identification plate

PWS Agent

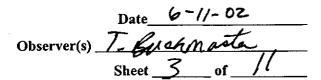
Damaged identification plate

MORTALITIES/INJURIES
Status: dead injured Number individuals Distance to nearest pole (ft.)
Species (circle one): Red-tailed Hawk Ferruginous Hawk Swainson's Hawk Golden Eagle Bald Eagle Osprey
Peregrine Falcon Prairie Falcon Merlin American Kestrel Great Horned Owl Common Raven American Crow Unknown
Cause of death/injury: Unknown Electrocution Shot Roadkill Other:
Evidence of electrocution: Burnt feathers Burnt talons Burnt bill Exit wound Other:
Status of carcass/remains: Buried Collected Left on-site Band number (if applicable)
Directions
Photo numberCamera number
LIVE SPECIES OBSERVED
Species (indicate number of individuals): Red-tailed Hawk Ferruginous Hawk
Rough-legged Hawk Swainson's Hawk Golden Eagle Bald Eagle Peregrine Falcon Prairie
Falcon Merlin American Kestrel Osprey Northern HarrierBarn Owl
Great Horned OwlCommon Raven Unknown hawk Unknown eagle Unknown
Behavior (check all that apply, indicate species): Flying/Hunting Courtship
Perched on Power Pole Perched in Tree/Cliff/Ground
Other:
N-49 C-4 0 V
Nest? Species Is nest active? Yes No
NOTES Belt Drive in close proximity. Likelihood Pole Diagram: F
insulated.
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Location of carcass
Early lines only:

HawkWatch International Raptor Electrocution Reduction Program

RERP Data Sheet 2002





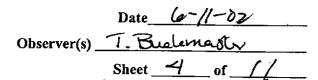


IF A MORTALITY WAS DOCUMENTED, CHECK HERE _____ IF POLE HAS RAPTOR PROTECTION BUT IS NOT RAPTOR-SAFE, CHECK HERE_

District		Circuit			Line Name		
Sagebrush/Shru Mountain shrub	b/Grass Dry meadov	per Spruce/Fir/Aspen	Salt desert scrub	Barren Ri	parian Resident en water Othert Lectura	·활사되었다. 100 전 설명시	
POLE LOCA	TION/IDENTIFIC	ATION:			Missing	g Plate? Yes	
Structure Num	bers (include both)_						_
Coordinates (U	JTM Zone 12): <u>E</u>		N		U	Inits: meters	feet
POLE CONF	IGURATION (Cir	cle one. If pole does	•		on other side of		-
			(i		gized conductors r underbuilt, indicat 3 or 3-2-1)	-	— s in each
Single phase no crossarm	Single phase with crossarm	Two phase TI	ree-pnase	lumber of tra are there exp	ansformers osed parts (such	as transforme	ers,
				Crossarm mad Crossarm bra Location of gr		metal fibergle	ass erglass
Three-phase crossarm lowered	Three-phase with two lines on one side, neutral down	Three-phase with two lines on each side, neutral up	streamline		are present: H		
	Three	e-phase Three	A d	_	ent: Pellets Whi		pole
Corner pole	YS-cor	figuration pole-mounte	•	<u> </u>	······································		

Broken crossarm Leaking transformer Broken/burned/leaning pole Broken guywire Broken insulator Missing identification plate Damaged identification plate **MORTALITIES/INJURIES** Status: dead injured Number individuals _____ Distance to nearest pole (ft.)_____ Species (circle one): Red-tailed Hawk Ferruginous Hawk Swainson's Hawk Golden Eagle Bald Eagle Osprey Peregrine Falcon Prairie Falcon Merlin American Kestrel Great Horned Owl Common Raven American Crow Unknown Cause of death/injury: Unknown Electrocution Shot Roadkill Other: Evidence of electrocution: Burnt feathers Burnt talons Burnt bill Exit wound Other: Status of carcass/remains: Buried Collected Left on-site Band number (if applicable) Directions Photo number Camera number LIVE SPECIES OBSERVED Species (indicate number of individuals): Red-tailed Hawk_____ Ferruginous Hawk_____ Rough-legged Hawk _____ Swainson's Hawk ____ Golden Eagle ____ Bald Eagle ____ Peregrine Falcon ___ Prairie Falcon_____ Merlin___ American Kestrel___ Osprey___ Northern Harrier___ Barn Owl____ Great Horned Owl___Common Raven___ Unknown hawk___ Unknown eagle___ Unknown__ Behavior (check all that apply, indicate species): Flying/Hunting Courtship Perched on Power Pole______ Perched in Tree/Cliff/Ground_____ Other: Nest?_____ Species_____ Is nest active? Yes NOTES_____ Pole Diagram: Location of carcass For HWinse only FWS Agent____ Date PacifiCory/Environmental Date PacifiCom/District Manager

RERP Data Sheet 2002





Deer Creek

IF A MORTALITY WAS DOCUMENTED, CHECK HERE _____ IF POLE HAS RAPTOR PROTECTION BUT IS NOT RAPTOR-SAFE, CHECK HERE_

District		Circuit	Line Na	me
Sagebrush/Shru Mountain shrub	Pinyon/Juniper Spremote rural suburban	opland/Pasture Salt des	rcent of each.)	tesidential/developed
POLE LOCA	FION/IDENTIFICATION	N:	N	Issing Plate? Yes
Structure Numl	bers (include both)			•
Coordinates (U	TM Zone 12):E		N	Units: meters feet
POLE CONFI	GURATION (Circle one.	. If pole does not match	ı any shown, draw it on other s	ide of sheet.)
			Is structure raptor safe? Total no. energized cond (if corner pole or underbuilt, direction, i.e. 3-3 or 3-2-1)	
Single phase no crossarm	Single phase Two phas with crossarm	e Three-phase	Number of transformers	
X			Are there exposed parts cutouts, arresters, jumpe Crossarm material:	er wires)? Yes No
				metal fiberglass wood metal fiberglass
4.		11 -	Location of ground wire:	
Three-phase	Three-phase with Three-phase	Three-phase ase with two streamline	Below crossarm	At or above crossarm
crossarm lowered		each side, tral up	Circle all that are presen	t: Hose Bushing cap
18 May 19			Insulator cover Perch gr	uard Perch
		1	Circle if present: Pellets	Whitewash Prey remains
The second			Are there live raptors, m	ortalities, nests, or pole
	, A			(*if yes, continue on other
Corner pole	Three-phase YS-configuration	Three-phase	side)	

Broken insulator Broken crossarm Leaking transformer

Broken/burned/leaning pole

Broken guywire

Missing identification plate

Damaged identification plate

	TIES/INJURIES	T	RTA	MΩ	Ī
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PacifiCorp/District Manager_

ORTALITIES/INJURIES	
itus: dead injured Number individuals Distance to nearest pole (ft.)	
ecies (circle one): Red-tailed Hawk Ferruginous Hawk Swainson's Hawk Golden Eagle Bald Eagle Osprey	
regrine Falcon Prairie Falcon Merlin American Kestrel Great Horned Owl Common Raven American Crow Unknown	own
use of death/injury: Unknown Electrocution Shot Roadkill Other:	
idence of electrocution: Burnt feathers Burnt talons Burnt bill Exit wound Other:	
tus of carcass/remains: Buried Collected Left on-site Band number (if applicable)	
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VE SPECIES OBSERVED	
ecies (indicate number of individuals): Red-tailed Hawk Ferruginous Hawk	
ugh-legged Hawk Swainson's Hawk Golden Eagle Bald Eagle Peregrine Falcon	Prairic
con Merlin American Kestrel Osprey Northern HarrierBarn Owl	
eat Horned OwlCommon Raven Unknown hawk Unknown eagle Unknown	
havior (check all that apply, indicate species): Flying/Hunting Courtship	
rched on Power Pole Perched in Tree/Cliff/Ground	
her:	
st? Species Is nest active? Yes No	
Pole Diagram:	Ė
第100-	fuke
cation of carcass	
For HWI use only:	
FWS Agent Date	
PacifiCorp/Environmental Date	1

HawkWatch International
Raptor Electrocution
Reduction Program

RERP Data Sheet 2002

Dear Creek

Observer(s) _	Date	Sute	<u> </u>	102
	Sheet	5	of	//



IF A MORTALITY WAS DOCUMENTED, CHECK HERE _____ IF POLE HAS RAPTOR PROTECTION BUT IS NOT RAPTOR-SAFE, CHECK HERE

	O. t		
HABITAT TYPE (CSagebrush/Shrub/Grass	Circle. If more than one	apply, indicate per l/Pasture Salt des	sert scrub Barren Riparian Residential/developed
Is the area: remot	e rural suburban		
Structure Numbers (in	IDENTIFICATION:		Missing Plate? Yes
Coordinates (UTM Zo	A Hand Cas.	Pole ple does not match	N Units: meters feet
DIE			Is structure raptor safe? Yes No Total no. energized conductors 3 (if corner pole or underbuilt, indicate number phases in each direction, i.e. 3-3 or 3-2-1)
A BO CTOCCOPIN	le phase Two phase crossarm	Three-phase	Number of transformers
crossarm lowered two line	phase with son one side, lines on each sid neutral up		Location of ground wire: Below crossarm At or above crossarm Circle all that are present: Hose Bushing cap Insulator cover Perch guard Perch Circle if present: Pellets Whitewash Prey remains
Corner pole	Three-phase YS-configuration	Three-phase le-mounted insulators	Are there live raptors, mortalities, nests, or pole damage? No Yes* (*if yes, continue on other side)

Broken insulator Broken crossarm Leaking transformer

Broken/burned/leaning pole

Broken guywire

Missing identification plate

Damaged identification plate

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Photo numberCamera number LIVE SPECIES OBSERVED Species (indicate number of individuals): Red-tailed Hawk Ferruginous Hawk
Peregrine Falcon Prairie Falcon Merlin American Kestrel Great Horned Owl Common Raven American Crow Unknow Cause of death/injury: Unknown Electrocution Shot Roadkill Other:
Cause of death/injury: Unknown Electrocution Shot Roadkill Other:
Evidence of electrocution: Burnt feathers Burnt talons Burnt bill Exit wound Other:
Status of carcass/remains: Buried Collected Left on-site Band number (if applicable)
Photo number
Camera number LIVE SPECIES OBSERVED Species (indicate number of individuals): Red-tailed Hawk Ferruginous Hawk Rough-legged Hawk Swainson's Hawk Golden Eagle Bald Eagle Peregrine Falcon P Falcon Merlin American Kestrel Osprey Northern Harrier Barn Owl Great Horned Owl Common Raven Unknown hawk Unknown eagle Unknown Behavior (check all that apply, indicate species): Flying/Hunting Courtship Perched on Power Pole Perched in Tree/Cliff/Ground
Species (indicate number of individuals): Red-tailed Hawk Ferruginous Hawk Rough-legged Hawk Swainson's Hawk Golden Eagle Bald Eagle Peregrine Falcon Palcon Merlin American Kestrel Osprey Northern Harrier Barn Owl Great Horned Owl Common Raven Unknown hawk Unknown eagle Unknown Behavior (check all that apply, indicate species): Flying/Hunting Courtship Perched on Power Pole Perched in Tree/Cliff/Ground
Rough-legged Hawk Swainson's Hawk Golden Eagle Bald Eagle Peregrine Falcon P Falcon Merlin American Kestrel Osprey Northern Harrier Barn Owl Great Horned Owl Common Raven Unknown hawk Unknown eagle Unknown Behavior (check all that apply, indicate species): Flying/Hunting Courtship Perched on Power Pole Perched in Tree/Cliff/Ground
Falcon American Kestrel Osprey Northern Harrier Barn Owl Great Horned Owl Common Raven Unknown hawk Unknown eagle Unknown Behavior (check all that apply, indicate species): Flying/Hunting Courtship Perched on Power Pole Perched in Tree/Cliff/Ground
Falcon American Kestrel Osprey Northern Harrier Barn Owl Great Horned Owl Common Raven Unknown hawk Unknown eagle Unknown Behavior (check all that apply, indicate species): Flying/Hunting Courtship Perched on Power Pole Perched in Tree/Cliff/Ground
Behavior (check all that apply, indicate species): Flying/Hunting Courtship Perched on Power Pole Perched in Tree/Cliff/Ground
Perched on Power Pole Perched in Tree/Cliff/Ground
Other:
Nest? Species Is nest active? Yes No
NOTES Pole Diagram:
NOTESPole Diagram:
Location of carcass
For HWI use only:
PWS Agent Date
PacifiCorp/Environmental Date
PacifiCorp/District Manager Date

HawkWatch International Raptor Electrocution Reduction Program

RERP Data Sheet 2002



Observer(s) Sheet 6



IF A MORTALITY WAS DOCUMENTED, CHECK HERE _____ IF POLE HAS RAPTOR PROTECTION BUT IS NOT RAPTOR-SAFE, CHECK HERE

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District		Circuit	Line	Name
HABITAT T		an one apply, indicate perc	ent of each.)	Residential/developed
Mountain shrub	Pinyon/Juniper remote rural suburb	Spruce/Fir/Aspen Wet mead	ow Mudflat Open water	The state of the s
POLE LOCA	TION/IDENTIFICATION	ON:		Missing Plate? Yes
Structure Num	bers (include both)			_
Coordinates (U	JTM Zone 12): <u>E</u>		N	Units: meters feet
POLE CONF	IGURATION (Circle o	e. If pole does not match a	any shown, draw it on othe	r side of sheet.)
* Comments			Is structure raptor sate Total no. energized co (if corner pole or underbudirection, i.e. 3-3 or 3-2-1	nductors
Single phase no crossarm	Single phase Two pl	nase Three-phase	Number of transforme	ers O
no crossatiii	with crossarm		Are there exposed par	ts (such as transformers,
	-		cutouts, arresters, jum	per wires)? Yes No
*			Crossarm material:	vood metal fiberglass
				ial: wood metal fiberglass
Three-phase	77	Three-phase	Location of ground wi	
crossarm lowered	two lines on one side, lines	phase with two streamline on each side,	Below crossarm Circle all that are pres	
and.	nouna nown	eutral up	_	ent: Hose Bushing cap guard Perch
			1	ts Whitewash Prey remains
				mortalities, nests, or pole (*if yes, continue on other
Corner pole	Three-phase YS-configuration	Three-phase pole-mounted insulators	side)	

Broken insulator

Broken crossarm

Leaking transformer

Broken/burned/leaning pole

Broken guywire

Missing identification plate

Damaged identification plate

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WORTABLITESINGURIES
Status: dead injured Number individuals Distance to nearest pole (ft.)
Species (circle one): Red-tailed Hawk Ferruginous Hawk Swainson's Hawk Golden Eagle Bald Eagle Osprey
Peregrine Falcon Prairie Falcon Merlin American Kestrel Great Horned Owl Common Raven American Crow Unknown
Cause of death/injury: Unknown Electrocution Shot Roadkill Other:
Evidence of electrocution: Burnt feathers Burnt talons Burnt bill Exit wound Other:
Status of carcass/remains: Buried Collected Left on-site Band number (if applicable)
Directions
Photo numberCamera number
LIVE SPECIES OBSERVED
Species (indicate number of individuals): Red-tailed Hawk Ferruginous Hawk
Rough-legged Hawk Swainson's Hawk Golden Eagle Bald Eagle Peregrine Falcon Prair
Falcon Merlin American Kestrel Osprey Northern Harrier Barn Owl
Great Horned OwlCommon Raven Unknown hawk Unknown eagle Unknown
Behavior (check all that apply, indicate species): Flying/Hunting Courtship
Perched on Power Pole Perched in Tree/Cliff/Ground
Other:
Nest? Species Is nest active? Yes No
Rate Pierram
NOTES Rapter Safe at typ Susas at Pole Diagram:
botton line to seemd level. Risk is
ow.
TE TO THE TOTAL PROPERTY OF THE PARTY OF THE
Location of carcass
For HWI use only:
PWS Agent Date Date
PacifiCorp/District Manager Date

HawkWatch International Raptor Electrocution Reduction Program

RERP Data Sheet 2002

Observer(s) _	Date <u>////</u> S. Wlate	02
	Sheet of	1/



IF A MORTALITY WAS DOCUMENTED, CHECK HERE _____ IF POLE HAS RAPTOR PROTECTION BUT IS NOT RAPTOR-SAFE, CHECK HERE

District Deal	neek ci	/	Line Name
Sagebrush/Shrub/Grass D Mountain shrub Pi	le. If more than one appl ry meadow Cropland/Past nyon/Juniper Spruce/Fir/As rural suburban	ure Salt desert scrub Ba	
POLE LOCATION/IDE	ENTIFICATION:		Missing Plate? Yes
Structure Numbers (inclu	de both)		
Coordinates (UTM Zone	12): <u>E</u>	<u>N</u>	Units: meters feet
POLE CONFIGURATI	ON (Circle one. If pole of	Is str Total (if cor	ructure raptor safe? Yes No I no. energized conductors rner pole or underbuilt, indicate number phases in each tion, i.e. 3-3 or 3-2-1)
Single phase Single ph	•	Three-phase Num	ber of transformers
Three-phase crossarm lowered wo lines on neutral of	se with one side, lown Three-phase with two lines on each side, neutral up	Cross Cross Locas Three-phase streamline Circle Are the	there exposed parts (such as transformers, uts, arresters, jumper wires)? Yes No sarm material: wood metal fiberglass sarm brace material: wood metal fiberglass stion of ground wire: Below crossarm At or above crossarm le all that are present: Hose Bushing cap attor cover Perch guard Perch le if present: Pellets Whitewash Prey remains there live raptors, mortalities, nests, or pole age? No Yes* (*if yes, continue on other
Corner pole	VC	hree-phase side)	

pole-mounted insulators

Broken insulator Broken crossarm Leaking transformer Broken/burned/leaning pole Broken guywire

Missing identification plate Damaged identification plate

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WORTALITIES/INCORES
Status: dead injured Number individuals Distance to nearest pole (ft.)
Species (circle one): Red-tailed Hawk Ferruginous Hawk Swainson's Hawk Golden Eagle Bald Eagle Osprey
Peregrine Falcon Prairie Falcon Merlin American Kestrel Great Horned Owl Common Raven American Crow Unknown
Cause of death/injury: Unknown Electrocution Shot Roadkill Other:
Evidence of electrocution: Burnt feathers Burnt talons Burnt bill Exit wound Other:
Status of carcass/remains: Buried Collected Left on-site Band number (if applicable)
Directions
Photo numberCamera number
LIVE SPECIES OBSERVED
Species (indicate number of individuals): Red-tailed Hawk Ferruginous Hawk
Rough-legged Hawk Swainson's Hawk Golden Eagle Bald Eagle Peregrine Falcon Pra
Falcon Merlin American Kestrel Osprey Northern HarrierBarn Owl
Great Horned OwlCommon Raven Unknown hawk Unknown eagle Unknown
Behavior (check all that apply, indicate species): Flying/Hunting Courtship
Perched on Power Pole Perched in Tree/Cliff/Ground
Other:
Nest? Is nest active? Yes No
NOTES Pole Diagram:
Location of carcass
For IVI inse only:
FWS Agent Date PacifiCom/Environmental Date
PacifiCorp/Environmental Date PacifiCorp/District Manager Date
ASSITIVATIVA ATIBITA ECI

HawkWatch International Raptor Electrocution Reduction Program

RERP Data Sheet 2002

Deer Creek

	Date_	6	11-02	
Observer(s) _	T. Br	chr	noot	
	Sheet _	8	of //	



IF A MORTALITY WAS DOCUMENTED, CHECK HERE _____ IF POLE HAS RAPTOR PROTECTION BUT IS NOT RAPTOR-SAFE, CHECK HERE

				THE SPECIAL OF PROPERTIES AND A CONTRACTOR OF THE SPECIAL OF THE S	
District		Circ	uit	Line Name	
	YPE (Circle. If mor	e than one apply,	indicate percei	그렇게 하고 이렇게하는 사가, 하는 어떻게 되는	
Mountain shrul		er Spruce/Fir/Aspe		w Mudflat Open water Other	A CAMER TO
	remote rural su	-	wet meadov	· · · · · · · · · · · · · · · · · · ·	: <u>/////</u>
POLE LOCA	ATION/IDENTIFICA	ATION:		Miss	sing Plate? Yes
Structure Nun	nbers (include both)				
	JTM Zone 12): <u>E</u>			N	Units: meters feet
POLE CONF	IGURATION (Circ	le one. If pole do	es not match an	y shown, draw it on other side	of sheet.)
	8	-	***	Is structure raptor safe? Your Total no. energized conduct (if corner pole or underbuilt, indidirection, i.e. 3-3 or 3-2-1)	es No ors_3
Single phase no crossarm		wo phase	Three-phase	Number of transformers	
_	with crossarm			Are there exposed parts (suc	ch as transformers,
Ţ			ħ	cutouts, arresters, jumper w	ires) Yes No
*			-	Crossarm material: wood	metal fiberglass
		į		Crossarm brace material: v	wood metal fiberglass
!	Ø.		There is a second of the secon	Location of ground wire:	
Three-phase crossarm lowered	Three-phase with T two lines on one side,	hree-phase with two lines on each side,	Three-phase streamline	Below crossarm	tt or above crossarm
	neutral down	neutral up	· .	Circle all that are present:	Hose Bushing cap
in the same of the		7		Insulator cover Perch guard	
		7		Circle if present: Pellets W	hitewash Prey remains
	A			Are there live raptors, morta	llities, nests, or pole
				damage? No Yes* (*if	yes, continue on other
Corner pole	Three-pl YS-config	rentian IIII CC	-phase ed insulators	side)	

Broken insulator

Broken crossarm

Leaking transformer

Broken/burned/leaning pole

Broken guywire

Missing identification plate

Damaged identification plate

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п	и.	t s	м		н.					3/		٧.		_	ĸ.		ن ا	4	3

tatus: dead injured Number individuals Distance to nearest pole (ft.)
pecies (circle one): Red-tailed Hawk Ferruginous Hawk Swainson's Hawk Golden Eagle Bald Eagle Osprey
eregrine Falcon Prairie Falcon Merlin American Kestrel Great Horned Owl Common Raven American Crow Unknown
ause of death/injury: Unknown Electrocution Shot Roadkill Other:
vidence of electrocution: Burnt feathers Burnt talons Burnt bill Exit wound Other:
tatus of carcass/remains: Buried Collected Left on-site Band number (if applicable)
irections
hoto numberCamera number
IVE SPECIES OBSERVED
pecies (indicate number of individuals): Red-tailed Hawk Ferruginous Hawk
ough-legged Hawk Swainson's Hawk Golden Eagle Bald Eagle Peregrine Falcon Prairi
alcon Merlin American Kestrel Osprey Northern HarrierBarn Owl
reat Horned OwlCommon Raven Unknown hawk Unknown eagle Unknown
Sehavior (check all that apply, indicate species): Flying/Hunting Courtship
erched on Power Pole Perched in Tree/Cliff/Ground
Other:
Nest? Species Is nest active? Yes No
NOTES Pole Diagram:
But HWI rise only: PWS: Agent Date PacifiCorp/Environmental Date PacifiCorp/District Manager Date

Date	6-11-02
Jale	11 11



Observer(s) T. Buckmartn

Sheet 9 of

IF A MORTALITY WAS DOCUMENTED, CHECK HERE _____ IF POLE HAS RAPTOR PROTECTION BUT IS NOT RAPTOR-SAFE, CHECK HERE

					,
District	en Creek	Ciı	cuit	Line	Name
	YPE (Circle. If model)	ore than one appl	y, indicate percer		
Mountain shrub		niper Spruce/Fir/As		and the second second	
Is the area:	ignation of the control of the contr	suburban	-	Service Servic	
POLE LOCAT	TION/IDENTIFI	CATION:			Missing Plate? Yes
Structure Numb	bers (include both))			
Coordinates (U	TM Zone 12): <u>I</u>	E		N	Units: meters feet
POLE CONFI	GURATION (C	ircle one. If pole d	oes not match an	y shown, draw it on othe	r side of sheet.)
	8			Is structure raptor sate Total no. energized co (if corner pole or underbudirection, i.e. 3-3 or 3-2-1	nductors 3 ilt, indicate number phases in each
Single phase no crossarm	Single phase with crossarm	Two phase	Three-phase	Number of transformed Are there exposed par	ers <u> </u>
				cutouts, arresters, jum Crossarm material: (v	
				Crossarm brace mater	
1	A		Three-phase	Location of ground wi	re:
Three-phase crossarm lowered	Three-phase with two lines on one side,	Three-phase with two lines on each side,	streamline	Below crossarm	
	neutral down	neutral up		Circle all that are pres	0 1
				Circle if present: Pelle	n guard Perch ts Whitewash Prey remains
	_			damage No Yes*	mortalities, nests, or pole (*if yes, continue on other
Corner pole		nti manati a	ree-phase	side)	

Broken insulator Broken crossarm

Leaking transformer

Broken/burned/leaning pole

Broken guywire

Missing identification plate

Damaged identification plate

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MONTABATES	2.42
Status: dead injured Number individuals	
Species (circle one): Red-tailed Hawk Ferruginous Hawk	
Peregrine Falcon Prairie Falcon Merlin American Kestrel G	
Cause of death/injury: Unknown Electrocution Shot	
Evidence of electrocution: Burnt feathers Burnt talons Bu	rnt bill Exit wound Other:
Status of carcass/remains: Buried Collected Left on-	site Band number (if applicable)
Directions	
Photo numberCamer	a number
LIVE SPECIES OBSERVED	
Species (indicate number of individuals): Red-tailed Hawk_	Ferruginous Hawk
Rough-legged Hawk Swainson's Hawk Go	lden Eagle Bald Eagle Peregrine Falcon Prairi
Falcon Merlin American Kestrel Ospr	rey Northern HarrierBarn Owl
Great Horned OwlCommon Raven Unknown have	vk Unknown eagle Unknown
Behavior (check all that apply, indicate species): Flying/Hun	oting Courtshin
Perched on Power Pole Perched in	
Other:	
Nest?Species	Is nest active? Yes No
Trest: Species	
NOTES	Pole Diagram:
	70 0
Location of carcass	/ /=
Location of carcass	/
Foci Filitie only:	
PWS Agent	Date
PacifiCorp/Environmental	_Date
PacifiCorp/Existrict Manager	Date

	Date_		6	-11-0	<u>Z_</u>
Observer(s)			Ti	Ruck	naster
	Sheet	10		//	



IF A MORTALITY WAS DOCUMENTED. CHECK HERE

	IF POLE HAS RAI	PTOR PROTECTION E	BUT IS NOT RAPTOR-SAFE, CHECK HERE
District C	uh	Circuit	Line Name
Sagebrush/Shrub/Grass Mountain shrub Is the area: remot	Circle. If more than one a Dry meadow Cropland/ Pinyon/Juniper Spruce/Fire rural suburban	pply, indicate percent of Pasture Salt desert scrub	of each.) ib Barren Riparian Residential/developed Mudflat Open water Other:
	IDENTIFICATION:		Missing Plate? Yes
	one 12): E		
		I T (i)	Is structure raptor safe? Yes No Total no. energized conductors (if corner pole or underbuilt, indicate number phases in each direction, i.e. 3-3 or 3-2-1)
DO CEOCCOPPS	gle phase Two phase crossarm	Till cc-phase	Number of transformers Are there exposed parts (such as transformers,
crostarm jowed d two line	e-phase with es on one side, itral down Three-phase with the lines on each side neutral up	Three-phase streamline	cutouts, arresters, jumper wires)? Yes No Crossarm material: wood metal fiberglass Crossarm brace material: wood metal fiberglass Location of ground wire: Below crossarm Circle all that are present: Hose Bushing cap
Corner pole	Three-phase	In C	Insulator cover Perch guard Perch Circle if present: Pellets Whitewash Prey remains Are there live raptors, mortalities, nests, or pole damage? No Yes* (*if yes, continue on other side)
Country Poto	YS-configuration pole	e-mounted insulators	

Broken insulator Broken crossarm Leaking transformer Broken/burned/leaning pole

Missing identification plate Damaged identification plate

MORT.	AΤ	TT	ITC	/TN	TITE	TES
IVIUJK I.	A I			/ 1 1 4	.iu.n	

Status: dead injured Number individuals	Distance to nearest pole (ft.)
Species (circle one): Red-tailed Hawk Ferruginous Hawk	
	Great Horned Owl Common Raven American Crow Unknown
Cause of death/injury: Unknown Electrocution Shot	
Evidence of electrocution: Burnt feathers Burnt talons I	
Status of carcass/remains: Buried Collected Left of	
Directions	
Photo number Cam	era number
LIVE SPECIES OBSERVED	
Species (indicate number of individuals): Red-tailed Hawk	Ferruginous Hawk
	olden Eagle Bald Eagle Peregrine Falcon Prair
Falcon Merlin American Kestrel Os	
Great Horned OwlCommon Raven Unknown h	
Behavior (check all that apply, indicate species): Flying/H Perched on Power Pole Perched Other:	in Tree/Cliff/Ground
Nest? Species	Is nest active? Yes No
NOTES Risk Ion due to noise level	Pole Diagram:
over.	
Location of carcass	
For HWI its softly:	
	Date
FWS Agent PacifiCorp/Environmental	Date
PacifiCorp/District Manager	Date

Broken guywire





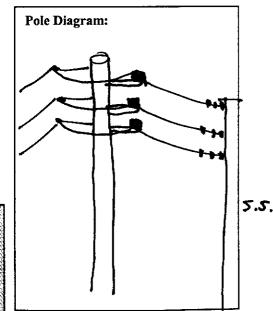
IF A MORTALITY WAS DOCUMENTED, CHECK HERE _____ IF POLE HAS RAPTOR PROTECTION BUT IS NOT RAPTOR-SAFE, CHECK HERE_

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District	Pilda Co	anyan Ci	rcuit		Line N	ame sa	
HABITAT TY	PE (Circle. If mo	re than one appl	y, indicate percen	t of each.)	Riparian	Residential/develo	
Mountain shrub		per Spruce/Fir/As	pen Wet meadow			Other: Allisa	TYPE
POLE LOCAT	ION/IDENTIFIC	ATION:				Missing Plate?	Yes
Structure Number	ers (include both)_						
Coordinates (UT	ГМ Zone 12): <u>Е</u>			N		Units: me	eters feet
POLE CONFIG	GURATION (Cir	cle one. If pole o	loes not match an	y shown, dra	w it on othe	r side of sheet.)	
				Total no. e	e. 3-3 or 3-2-1)	nductors 3	phases in each
Single phase no crossarm	Single phase with crossarm	Two phase	Three-phase	Ī	f transforme exposed pari	ts (such as trans	formers.
			Three-phase	cutouts, ar Crossarm Crossarm Location o	material: w brace mater	per wires? Yes yood metal f ial: wood meta re:	No iberglass
Three-phase crossarm lowered	Three-phase with two lines on one side,	Three-phase with two lines on each side,	streamline	<u> </u>	hat are pres		crossarm ishing cap
	neutral down	neutral up		Insulator co Circle if pu Are there I damage?	over Perch resent: Pelle live raptors,	guard Perch ts Whitewash mortalities, nest (*if yes, contin	Prey remains
Corner pole			hree-phase ounted insulators	side)			

Broken/burned/leaning pole Broken guywire Broken insulator Broken crossarm Leaking transformer Missing identification plate Damaged identification plate MORTALITIES/INJURIES Number individuals _____ Distance to nearest pole (ft.)_____ Status: dead injured Species (circle one): Red-tailed Hawk Ferruginous Hawk Swainson's Hawk Golden Eagle Bald Eagle Osprey Peregrine Falcon Prairie Falcon Merlin American Kestrel Great Horned Owl Common Raven American Crow Unknown Cause of death/injury: Unknown Electrocution Shot Roadkill Other: Evidence of electrocution: Burnt feathers Burnt talons Burnt bill Exit wound Other: Status of carcass/remains: Buried Collected Left on-site Band number (if applicable) Directions _____ Photo number Camera number_____ LIVE SPECIES OBSERVED Species (indicate number of individuals): Red-tailed Hawk Ferruginous Hawk Rough-legged Hawk _____ Swainson's Hawk ____ Golden Eagle ____ Bald Eagle ____ Peregrine Falcon ___ Prairie Falcon_____ Merlin___ American Kestrel___ Osprey___ Northern Harrier___Barn Owl____ Great Horned Owl___Common Raven___ Unknown hawk___ Unknown eagle___ Unknown____ Behavior (check all that apply, indicate species): Flying/Hunting Courtship Perched on Power Pole Perched in Tree/Cliff/Ground_____ Other: Nest?_____ Species_____ Is nest active? Yes No NOTES Pole sits in substation area. Pole Diagram: Unsure of responsibility. Location of carcass For HWI use only: FWS Agent___

PacifiCorp/Buvironmental Date

PacifiCom/District Manager



	Date	6	110/	02	
Observer(s) _	S. wil	te'	l .		
	Sheet	_	of		



IF A MORTALITY WAS DOCUMENTED, CHECK HERE _____
IF POLE HAS RAPTOR PROTECTION BUT IS NOT RAPTOR-SAFE, CHECK HERE_

District <u>Wila</u>	rat Loado	Circuit Be	for Substati	Line N	ame	
HABITAT TYPE (C Sagebrush/Shrub/Grass Mountain shrub Is the area: remote		and/Pasture Salt	desert scrub Barren	Codyn 1/4 Riparian Open water	Residential/develop	
POLE LOCATION/I	DENTIFICATION:				Missing Plate?	Yes
Coordinates (UTM Zo	ne 12): <u>E</u>			w it on othe	Units: meter	ers feet
8			Total no. 6 (if corner po	e. 3-3 or 3-2-1	nductors 3 ilt, indicate number p	hases in each
	le phase Two phase crossarm	Three-pha	Are there cutouts, as	rresters, jun	ts (such as transfo	No
crossarm lowered two line	e-phase with so on one side, lines on e tral down neutr	ach side,	hase line Be Circle all to Insulator conclusion of the circle if p	that are presover Perceresent: Pello	n At or above on Sent: Hose Bush guard Perchets Whitewash F	ching cap
Corner pole	Three-phase YS-configuration	Three-phase pole-mounted insula	damage?	No Yes'	mortalities, nests (*if yes, continuation high	

PacifiCorp/District Manager_____

Broken guywire Broken insulator Broken crossarm Leaking transformer Broken/burned/leaning pole Missing identification plate Damaged identification plate MORTALITIES/INJURIES Number individuals _____ Distance to nearest pole (ft.)_____ Status: dead injured Species (circle one): Red-tailed Hawk Ferruginous Hawk Swainson's Hawk Golden Eagle Bald Eagle Osprey Peregrine Falcon Prairie Falcon Merlin American Kestrel Great Horned Owl Common Raven American Crow Unknown Other: _____ Cause of death/injury: Unknown Electrocution Shot Roadkill Evidence of electrocution: Burnt feathers Burnt talons Burnt bill Exit wound Other: Status of carcass/remains: Buried Collected Left on-site Band number (if applicable) Directions Photo number ____ Camera number___ LIVE SPECIES OBSERVED Species (indicate number of individuals): Red-tailed Hawk_____ Ferruginous Hawk____ Rough-legged Hawk _____ Swainson's Hawk ____ Golden Eagle 2 Bald Eagle ___ Peregrine Falcon ___ Prairie Falcon Merlin American Kestrel Osprey Northern Harrier Barn Owl Great Horned Owl Common Raven Unknown hawk Unknown eagle Unknown _____ Behavior (check all that apply, indicate species): Flying/Hunting V Sanias Courtship Perched on Power Pole_____ Perched in Tree/Cliff/Ground Other:____ Nest? ____ Is nest active? Yes NOTES___ Pole Diagram: Location of carcass For HWI use only: FWS Agent Date PacifiCorp/Environmental Date

Date

Date_ 6/10 /02	
Observer(s) White Strand Bur	teraz
Sheet 2 of 7	



IF A MORTALITY WAS DOCUMENTED, CHECK HERE _____ IF POLE HAS RAPTOR PROTECTION BUT IS NOT RAPTOR-SAFE, CHECK HERE_

			د				,,
District Wildrat Coadou	Circuit_	Before Di	Substi	Line N	ame		
HABITAT TYPE (Circle. If more							
Sagebrush/Shrub/Grass Dry meadow	Cropland/Pasture	Salt desert scrub	•	Riparian	Residential/deve	loped	
Mountain shrub Pinyon/Juniper	Spruce/Fir/Aspen	Wet meadow	Mudflat	Open water	Other: Men		
Is the area: remote rural subu	rban						.*
POLE LOCATION/IDENTIFICAT	ION:				Missing Plate?	Yes	
Structure Numbers (include both)							
Coordinates (UTM Zone 12):E		<u>N</u>			Units: m	eters fe	eet
POLE CONFIGURATION (Circle	one. If pole does r	ot match any sh	own, dra	w it on othe	r side of sheet.)		
		T (ii di	fotal no. e	. 3-3 or 3-2-1	nductors 3	er phases in	ı each
Single phase Single phase Two no crossarm with crossarm	phase Thr	ee-phase		transforme		- cfowmono	
		C C	itouts, ar rossarm i rossarm i ocation o	resters, jum material: v	vood metal iat: wood me	fiberglass	áL.
neutral down	neutral up	C	ircle all t	hat are pres	ent: Hose B	Sushing cap	p
		Ci At da	re there l	esent: Pelle	n guard Perch ts Whitewash mortalities, nes (*if yes, cont	Prey rem	e
Corner pole Three-pha YS-configur	11000-01		de) 				

Broken insulator Broken crossarm

Leaking transformer

Damaged identification plate Missing identification plate **MORTALITIES/INJURIES** Number individuals _____ Distance to nearest pole (ft.)_____ Status: dead injured Species (circle one): Red-tailed Hawk Ferruginous Hawk Swainson's Hawk Golden Eagle Bald Eagle Osprey Peregrine Falcon Prairie Falcon Merlin American Kestrel Great Horned Owl Common Raven American Crow Unknown Electrocution Shot Roadkill Other: Cause of death/injury: Unknown Evidence of electrocution: Burnt feathers Burnt talons Burnt bill Exit wound Other: Status of carcass/remains: Buried Collected Left on-site Band number (if applicable) **Directions** Photo number_____Camera number_____ LIVE SPECIES OBSERVED Species (indicate number of individuals): Red-tailed Hawk______ Ferruginous Hawk_____ Rough-legged Hawk _____ Swainson's Hawk ____ Golden Eagle ____ Bald Eagle ____ Peregrine Falcon ___ Prairie Falcon_____ Merlin___ American Kestrel___ Osprey___ Northern Harrier___Barn Owl____ Great Horned Owl___Common Raven___ Unknown hawk___ Unknown eagle___ Unknown___ Behavior (check all that apply, indicate species): Flying/Hunting _____ Courtship_____ Perched on Power Pole_____ Perched in Tree/Cliff/Ground_____ Other: Nest?_____ Species_____ Is nest active? Yes No Pole Diagram: NOTES_____ Location of carcass For HWI use only: FWS Agent____ Date_ PacifiCorp/Environmental Date Date___ PacifiCorp/District Manager____

Broken guywire

Broken/burned/leaning pole

Observer(s) _	Date_	_6	110/0	2	
	Sheet	3	of	7	



IF A MORTALITY WAS DOCUMENTED, CHECK HERE ______ IF POLE HAS RAPTOR PROTECTION BUT IS NOT RAPTOR-SAFE, CHECK HERE

District Woldoof Circuit 4	Her Substation Line Name
HABITAT TYPE (Circle. If more than one apply, indica	te percent of each.)
Sagebrush/Shrub/Grass Dry meadow Cropland/Pasture Sa	alt desert scrub Barren Riparian Residential/developed
Mountain shrub Pinyon/Juniper Spruce/Fir/Aspen W	et meadow Mudflat Open water Other: Loadout
Is the area: remote rural suburban	
POLE LOCATION/IDENTIFICATION:	Missing Plate? Yes
Structure Numbers (include both)	
Coordinates (UTM Zone 12): E	Units: meters feet
POLE CONFIGURATION (Circle one. If pole does not a	match any shown, draw it on other side of sheet.)
	Is structure raptor safe(Yes No
	Total no. energized conductors 3
	(if corner pole or underbuilt, indicate number phases in each
	direction, i.e. 3-3 or 3-2-1)
Single phase Single phase Two phase Three-ph	Number of transformers
with crossarm	Are there exposed parts (such as transformers,
	cutouts, arresters, jumper wires)? Yes No
	Crossarm material: wood metal fiberglass
	Crossarm brace material: wood metal fiberglass
Three-	Location of ground wire:
Three-phase Three-phase with Three-phase with two stream crossarm lowered two lines on one side, lines on each side,	Below crossarm At or above crossarm
neutral down neutral up	Circle all that are present: Hose Bushing cap
	Insulator cover Perch guard Perch
	Circle if present: Pellets Whitewash Prey remains
	Are there live raptors, mortalities, nests, or pole
	damage? No Yes* (*if yes, continue on other
Corner pole Three-phase Three-phase YS-configuration pole-mounted insula	side)

PacifiCorp/District Manager_____

Broken guywire Broken/burned/leaning pole Leaking transformer Broken insulator Broken crossarm Damaged identification plate Missing identification plate **MORTALITIES/INJURIES** Distance to nearest pole (ft.) Number individuals _____ Status: dead injured Species (circle one): Red-tailed Hawk Ferruginous Hawk Swainson's Hawk Golden Eagle Bald Eagle Osprey Peregrine Falcon Prairie Falcon Merlin American Kestrel Great Horned Owl Common Raven American Crow Unknown Roadkill Other: _____ Electrocution Shot Cause of death/injury: Unknown Evidence of electrocution: Burnt feathers Burnt talons Burnt bill Exit wound Other:_____ Status of carcass/remains: Buried Collected Left on-site Band number (if applicable) **Directions** Photo number_____Camera number____ LIVE SPECIES OBSERVED Species (indicate number of individuals): Red-tailed Hawk_____ Ferruginous Hawk_____ Rough-legged Hawk _____ Swainson's Hawk ____ Golden Eagle ___ Bald Eagle ___ Peregrine Falcon ___ Prairie Falcon_____ Merlin___ American Kestrel___ Osprey___ Northern Harrier___ Barn Owl____ Great Horned Owl___Common Raven___ Unknown hawk___ Unknown eagle___ Unknown___ Behavior (check all that apply, indicate species): Flying/Hunting _____ Courtship_____ Perched in Tree/Cliff/Ground Perched on Power Pole Other: Nest? _____ Is nest active? Yes No Pole Diagram: NOTES Location of carcass For HWI use only: PWS Agent____ Date Date PacifiCorp/Environmental____

Date

END underground

Three-phase

YS-configuration

Corner pole

Three phase

pole-mounted insulators

	Date_	6/10/02
erver(s)		



Obse Sheet 4 of 7

IF A MORTALITY WAS DOCUMENTED, CHECK HERE

IF POLE HAS RAPTOR PR	OTECTION BUT IS NOT RAPTOR-SAFE, CHECK HERE_
District Wildcat Circuit	After Substation Line Name
HABITAT TYPE (Circle. If more than one apply, indi-	
And the second of the second o	Salt desert scrub Barren Riparian Residential/developed
Mountain shrub Pinyon/Juniper Spruce/Fir/Aspen	Wet meadow Mudflat Open water Other: Load our
Is the area: remote rural suburban	
POLE LOCATION/IDENTIFICATION:	Missing Plate? Yes
Structure Numbers (include both)	
Coordinates (UTM Zone 12):E	
POLE CONFIGURATION (Circle one. If pole does no	Is structure raptor safe? Yes No Total no. energized conductors (if corner pole or underbuilt, indicate number phases in each direction, i.e. 3-3 or 3-2-1)
Single phase Single phase Two phase Three- no crossarm with crossarm	Are there exposed parts (such as transformers,
Three-phase Three-phase with Three-phase with two	cutouts, arresters, jumper wires)? Yes No Crossarm material: wood metal fiberglass Crossarm brace material: wood metal fiberglass Location of ground wire: Below crossarm At or above crossarm
neutral down neutral up	Circle all that are present: Hose Bushing cap

Perch guard Insulator cover Perch Circle if present: Pellets Whitewash Prey remains Are there live raptors, mortalities, nests, or pole

damage? No Yes* (*if yes, continue on other side)

PacifiCorp/Environmental_____
PacifiCorp/District Manager____

Broken/burned/leaning pole Broken guywire Broken insulator Broken crossarm Leaking transformer Damaged identification plate Missing identification plate **MORTALITIES/INJURIES** Number individuals _____ Distance to nearest pole (ft.)_____ Status: dead injured Species (circle one): Red-tailed Hawk Ferruginous Hawk Swainson's Hawk Golden Eagle Bald Eagle Osprey Peregrine Falcon Prairie Falcon Merlin American Kestrel Great Horned Owl Common Raven American Crow Unknown Roadkill Other: Shot Cause of death/injury: Unknown Electrocution Evidence of electrocution: Burnt feathers Burnt talons Burnt bill Exit wound Other:_____ Status of carcass/remains: Buried Collected Left on-site Band number (if applicable) Directions Photo number _____Camera number_____ LIVE SPECIES OBSERVED Species (indicate number of individuals): Red-tailed Hawk_____ Ferruginous Hawk_____ Rough-legged Hawk _____ Swainson's Hawk ____ Golden Eagle ____ Bald Eagle ____ Peregrine Falcon ___ Prairie Falcon_____ Merlin___ American Kestrel___ Osprey___ Northern Harrier___ Barn Owl____ Great Horned Owl___Common Raven___ Unknown hawk___ Unknown eagle___ Unknown____ Behavior (check all that apply, indicate species): Flying/Hunting Courtship Perched on Power Pole_____ Perched in Tree/Cliff/Ground____ Other:_____ Nest?_____ Species_____ Is nest active? Yes No NOTES_____ Pole Diagram: Location of carcass For HWI use only: Date FWS Agent____

Date



District	Dildat		Circuit_ <i>A</i>	ter S	ubsta	<i>Fior</i> Line N	ame		····
HABITAT TY	YPE (Circle. If m		\mathcal{O}		*	•			
Sagebrush/Shrul	b/Grass Dry mead	ow Cropland/P	asture Salt	desert scrub	Barren	Riparian	Residential/develo	ped	
Mountain shrub	Pinyon/Ju	niper Spruce/Fir/	Aspen Wet	meadow	Mudflat	Open water	Other: Loado	ret	:
Is the area:	remote rural	suburban							
POLE LOCA	TION/IDENTIFI	CATION:					Missing Plate?	Yes	
Structure Numl	bers (include both))						a	_
Coordinates (U	JTM Zone 12): <u>l</u>	Ε		<u>N</u>			Units: met	ers	feet
POLE CONFI	IGURATION (C	ircle one. If pol	e does not ma	atch any sh	own, dra	w it on othe	r side of sheet.)		
ŧ	8		2 4	_\$ Is	structui	re raptor sai	e? Yes(No)		
		2		т	otal no. <u>e</u>	energized co	nductors 3		_
	#25 #25 27 # 1			(ii	f corner po	ole or underbu	ilt, indicate number	phases i	in eacl
	5分 (・ か た。 (。			di	irection, i.e	e. 3-3 or 3-2-1)		
Single phase	Single phase	Two phase	Three-phase	N	umber o	f transform	ers		
no crossarm	with crossarm	•		A	re there	exposed par	ts (such as transf	ormers	s,
) B			3 8	cı	utouts, ar	resters, jun	per wires)?/Yes	No	
				c جمہ	rossarm	material: v	vood metal fi	berglas	SS
		# F		C	rossarm	brace mater	ial: wood meta	l fiber	rglass
å. 31	Ŕ	4	11	L	ocation o	f ground wi	re:	amount of the same	
Three-phase	Three-phase with	Three-phase with to	Three-pha wo streamlin		Be	low crossarn	At or above	crossar	and a
crossarm lowered	two lines on one side, neutral down	lines on each side neutral up	•	C	ircle all t	hat are pres	ent: Hose Bu	shing c	ар
المجيدة .				In	sulator co	over Percl	n guard Perch		
				C	ircle if p	resent: Pelle	ets Whitewash 1	Prey re	mains
		2		A	re there l	live ra ptors,	mortalities, nests	, or po	ole
				ds	amage? (No Yes*	(*if yes, contin	ue on c	other
Corner pole		ree-phase onfiguration pole	Three-phase	•	de)				

PacifiCorp/District Manager__

Broken guywire Broken/burned/leaning pole Leaking transformer Broken insulator Broken crossarm Damaged identification plate Missing identification plate **MORTALITIES/INJURIES** Number individuals _____ Distance to nearest pole (ft.)_____ Status: dead injured Species (circle one): Red-tailed Hawk Ferruginous Hawk Swainson's Hawk Golden Eagle Bald Eagle Osprey Peregrine Falcon Prairie Falcon Merlin American Kestrel Great Horned Owl Common Raven American Crow Unknown Cause of death/injury: Unknown Electrocution Shot Roadkill Other: ____ Evidence of electrocution: Burnt feathers Burnt talons Burnt bill Exit wound Other: Status of carcass/remains: Buried Collected Left on-site Band number (if applicable) Directions Photo number _____ Camera number _____ LIVE SPECIES OBSERVED Species (indicate number of individuals): Red-tailed Hawk_____ Ferruginous Hawk_____ Rough-legged Hawk _____ Swainson's Hawk ____ Golden Eagle ____ Bald Eagle ____ Peregrine Falcon ___ Prairie Falcon_____ Merlin___ American Kestrel___ Osprey___ Northern Harrier___ Barn Owl____ Great Horned Owl___Common Raven___ Unknown hawk___ Unknown eagle___ Unknown___ Behavior (check all that apply, indicate species): Flying/Hunting Courtship Perched on Power Pole_____ Perched in Tree/Cliff/Ground Other: Low risk of contact Nest?_____ Is nest active? Yes No Pole Diagram: NOTES Location of carcass For HWI use only: Date FWS Agent____ PacifiCorp/Environmental_____ Date

Date

Date	6/10/02
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Observer(s) Sheet 6 of 7

						and the second of the second o
District	ldeat_	Circuit	after Sus	bstati	On_Line N	lame
HABITAT TYPE	(Circle. If more t	han one apply, in	Colorate percent of	each.)		
Sagebrush/Shrub/Gra	ass Dry meadow	Cropland/Pasture	Salt desert scrub	Barren	Riparian	Residential/developed
Mountain shrub	Pinyon/Juniper	Spruce/Fir/Aspen	Wet meadow	Mudflat	Open water	Other:
Is the area: rem	ote rural subu	rban				
POLE LOCATIO	N/IDENTIFICAT	ION:				Missing Plate? Yes
Structure Numbers	(include both)					
Coordinates (UTM	Zone 12):E		N			Units: meters feet
POLE CONFIGU	RATION (Circle	one. If pole does 1	not match any sh	iown, dra	w it on othe	r side of sheet.)
j s			Is	s structur	e raptor sai	e? Yes No
		5 1	T	otal no. <u>e</u>	nergized co	nductors3
-		H	(i	f corner po	le or underbu	ilt, indicate number phases in eacl
A.	**************************************		di	irection, i.e	e. 3-3 or 3-2-1)
Single phase	Single phase Two	phase Thr	ee-phase N	lumber of	f transform	ers
no crossarm	ith crossarm		A	re there	exposed par	ts (such as transformers,
†	and the same of th		a cı	utouts, ar	resters, jum	per wires)? Yes No
			C	rossarm	material: v	vood metal fiberglass
	-		C	rossarm	brace mater	ial: wood metal fiberglass
			1) L	ocation o	f ground wi	re:
	hree-phase with Thre	ee-phase with two	hree-phase streamline	Bel	ow crossarm	At or above crossarm
	lines on one side, lin neutral down	es on each side, neutral up	C	ircle all t	hat are pres	ent: Hose Bushing cap
			In	sulator co	ver Perch	guard Perch
		· 1	C	ircle if pr	esent: Pelle	ts Whitewash Prey remains
			A	re there l	ive raptors.	mortalities, nests, or pole
1			*		No Yes*	(*if yes, continue on other
Corner pole	Three-phas			de)		(y, v.i. viiivi
Corner pole	YS-configura	tion pole-mounted		<u> </u>		

Broken insulator Broken crossarm Leaking transformer

Damaged identification plate Missing identification plate MORTALITIES/INJURIES Number individuals _____ Distance to nearest pole (ft.)_____ Status: dead injured Species (circle one): Red-tailed Hawk Ferruginous Hawk Swainson's Hawk Golden Eagle Bald Eagle Osprey Peregrine Falcon Prairie Falcon Merlin American Kestrel Great Horned Owl Common Raven American Crow Unknown Roadkill Other: Electrocution Shot Cause of death/injury: Unknown Evidence of electrocution: Burnt feathers Burnt talons Burnt bill Exit wound Other: Status of carcass/remains: Buried Collected Left on-site Band number (if applicable) Directions Photo number_____Camera number_____ LIVE SPECIES OBSERVED Species (indicate number of individuals): Red-tailed Hawk_____ Ferruginous Hawk_____ Rough-legged Hawk _____ Swainson's Hawk ____ Golden Eagle ___ Bald Eagle ___ Peregrine Falcon ___ Prairie Falcon_____ Merlin___ American Kestrel___ Osprey___ Northern Harrier__ Barn Owl____ Great Horned Owl___Common Raven___ Unknown hawk___ Unknown eagle__ Unknown__ Behavior (check all that apply, indicate species): Flying/Hunting _____ Courtship_____ Perched in Tree/Cliff/Ground____ Perched on Power Pole_____ Other: Nest?_____ Is nest active? Yes No Pole Diagram: NOTES Location of carcass For HWI use only: Date FWS Agent_____ Date PacifiCorp/Environmental PacifiCorp/District Manager___

Broken guywire

Broken/burned/leaning pole

Date	6/10/02	
		·



Observer(s) ______ of _____

District	Odoat	Circuit	after Su	bstar	Line N	lame		
HABITAT TYPE (C			ν					
Sagebrush/Shrub/Grass	Dry meadow	Cropland/Pasture	Salt desert scrub	Barren	Riparian	Residential/develo	ped	
Mountain shrub	Pinyon/Juniper	Spruce/Fir/Aspen	Wet meadow	Mudflat	Open water	Other:		
Is the area: remote	rural subur	ban						
POLE LOCATION/I	IDENTIFICAT	ION:				Missing Plate?	Yes	
Structure Numbers (in	clude both)				<u> </u>			_
Coordinates (UTM Zo	ne 12): <u>E</u>		N			Units: me	ters	feet
POLE CONFIGURA	ATION (Circle	one. If pole does i	not match any sh	own, dra	w it on othe	r side of sheet.)		
			T (i	' otal no. <u>e</u> f corner po	<u>nergized</u> co	ilt, indicate number	phases	in eacl
	-	phase Thr	ree-phase N	lumber o	f transforme	ers		
with c	crossarm		!			ts (such as transf	ı	s,
			4 CI	utouts, ar	resters, jun	per wires)?(Yes	No	
				rossarm	material: v	vood metal fi	berglas	ss
		i.		rossarm	brace matei	ial: wood meta	fibe	rglass
	બ્રિ		hree-phase L	ocation o	f ground wi	re:		
			streamline			At or above	crossar	my/
neu	tral down	neutral up			hat are pres		shing c	ap
			N,	sulator co		n guard Perch		
			•	ircie ii pi	esent: Pelle	ets Whitewash	Prey re	mains
	***		A	re there l	ive raptors,	mortalities, nest	s, or po	əle
				. C	No Yes*	(*if yes, contin	iue on (other
Corner pole	Three-phas YS-configura	1 111 CC D1	hase Sid	de)				

PacifiCorp/District Manager____

Broken guywire Broken crossarm Leaking transformer Broken/burned/leaning pole Broken insulator Damaged identification plate Missing identification plate **MORTALITIES/INJURIES** Number individuals _____ Distance to nearest pole (ft.)_____ Status: dead injured Species (circle one): Red-tailed Hawk Ferruginous Hawk Swainson's Hawk Golden Eagle Bald Eagle Osprey Peregrine Falcon Prairie Falcon Merlin American Kestrel Great Horned Owl Common Raven American Crow Unknown Electrocution Shot Roadkill Other: Cause of death/injury: Unknown Evidence of electrocution: Burnt feathers Burnt talons Burnt bill Exit wound Other: Status of carcass/remains: Buried Collected Left on-site Band number (if applicable) Directions Photo number _____ Camera number _____ LIVE SPECIES OBSERVED Species (indicate number of individuals): Red-tailed Hawk_____ Ferruginous Hawk_____ Rough-legged Hawk _____ Swainson's Hawk ____ Golden Eagle ____ Bald Eagle ____ Peregrine Falcon ___ Prairie Falcon____ Merlin__ American Kestrel__ Osprey__ Northern Harrier_ Barn Owl____ Great Horned Owl___Common Raven___ Unknown hawk___ Unknown eagle___ Unknown___ Behavior (check all that apply, indicate species): Flying/Hunting _____ Courtship_____ Perched on Power Pole_____ Perched in Tree/Cliff/Ground_____ Other:____ Nest?_____ Is nest active? Yes No NOTES Food of line into conduites Pole Diagram Location of carcass For HWI use only: FWS Agent____ Date PacifiCorp/Environmental Date

Date

	Date	6/1	1/	02	
Observer(s) _	57	ran	eĺ_		
	Sheet	(of	8	



	on bot is not ken tok-bare, effect fiere
District Sayage Loadout Circuit_	Line Name
HABITAT TYPE (Circle. If more than one apply, indicate perce	· · · · · · · · · · · · · · · · · · ·
Sagebrush/Shrub/Grass Dry meadow Cropland/Pasture Salt desert	
	w Mudflat Open water Other: 1717
Is the area: remote rural suburban	1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1
POLE LOCATION/IDENTIFICATION:	Missing Plate? Yes
Structure Numbers (include both)	
Coordinates (UTM Zone 12): E	N Units: meters feet
POLE CONFIGURATION (Circle one. If pole does not match as	ny shown, draw it on other side of sheet.)
Single phase no crossarm Single phase with crossarm Two phase Three-phase	Is structure raptor safe? Yes No Total no. energized conductors (if corner pole or underbuilt, indicate number phases in each direction, i.e. 3-3 or 3-2-1) Number of transformers Are there exposed parts (such as transformers, cutouts, arresters, jumper wires)? Yes No Crossarm material: wood metal fiberglass Crossarm brace material: wood metal fiberglass
Three-phase Three-phase with Three-phase with two streamline crossarm lowered two lines on one side, neutral down neutral up	Below crossarm At or above crossarm Circle all that are present: Hose Bushing cap
	Insulator cover Perch guard Perch Circle if present: Pellets Whitewash Prey remains Are there live raptors, mortalities, nests, or pole
Corner pole Three-phase Three-phase YS-configuration pole-mounted insulators	damage? No Yes* (*if yes, continue on other side)

Broken insulator Broken crossarm

Leaking transformer

Broken/burned/leaning pole

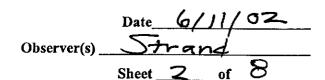
Broken guywire

Missing identification plate

Damaged identification plate

MORTALITIES/INJU	JR	HES
------------------	----	-----

	Distance to nearest pole (ft.)
Status: dead injured Number individuals	-
Species (circle one): Red-tailed Hawk Ferruginous Hawk	Swainson's Hawk Golden Eagle Baid Eagle Ospicy
Peregrine Falcon Prairie Falcon Merlin American Kestrel	Great Horned Owl Common Raven American Crow Unknown
Cause of death/injury: Unknown Electrocution Shot	Roadkill Other:
Evidence of electrocution: Burnt feathers Burnt talons	Burnt bill Exit wound Other:
Status of carcass/remains: Buried Collected Left of	on-site Band number (if applicable)
Directions	
Photo number Can	nera number
LIVE SPECIES OBSERVED	Europia and Hamile
Species (indicate number of individuals): Red-tailed Hawk	rerruginous Hawk Prairi
Rough-legged Hawk Swainson's Hawk	Golden Eagle Bald Eagle Peregrine Falcon Prairi
Falcon Merlin American Kestrel C	sprey Northern HarrierBarn Owl
Great Horned OwlCommon Raven Unknown	hawk Unknown eagle Unknown
Behavior (check all that apply, indicate species): Flying/	Hunting Courtship
Perched on Power Pole Perche	d in Tree/Cliff/Ground
Other:	
Outer	
Nest?Species	Is nest active? Yes No
Nest:Species	
Nomes	Pole Diagram:
NOTES	
Location of carcass	
For HWI use only:	
FWS Agent	Date
PacifiCorp/Environmental	Date
PacifiCorp/District Manager	Date





	and a state of the		
District Tayonep	Londou	<u> L_Circuit</u>	Line Name
HABITAT TYPE (Cit Sagebrush/Shrub/Grass			cent of each.)
	Pinyon/Juniper Spruc		
Is the area: remote	A SHE CONTRACTOR OF THE PARTY OF	on division	dow Mathat Open water Other: 777772
POLE LOCATION/II	DENTIFICATION:		Missing Plate? Yes
Structure Numbers (inc	lude both)		
Coordinates (UTM Zon	e 12): <u>E</u>		Units: meters feet
POLE CONFIGURAT	TION (Circle one. It	pole does not match	any shown, draw it on other side of sheet.)
	2		Is structure raptor safe? Yes No Total no. energized conductors (if corner pole or underbuilt, indicate number phases in each direction, i.e. 3-3 or 3-2-1)
Single phase Single no crossarm		Three-phase	Number of transformers
with cro	ossarm		Are there exposed parts (such as transformers,
			cutouts, arresters, jumper wires Yes No
			Crossarm material: wood metal fiberglass
			Crossarm brace material: wood metal fiberglass
*	ı M	Three-phase	Location of ground wire:
crossarm lowered two lines	hase with Three-phase von one side, lines on each		Below crossarm At or above crossarm
neutra	ıl down neutral	up	Circle all that are present: Hose Bushing cap Insulator cover Perch guard Perch
			Circle if present: Pellets Whitewash Prey remains
	1	4	Are there live raptors, mortalities, nests, or pole damage? No Yes* (*if yes, continue on other
Corner pole	Three-phase YS-configuration	Three-phase pole-mounted insulators	side)

PacifiCorp/District Manager_____

Broken/burned/leaning pole Broken guywire Broken crossarm Leaking transformer Broken insulator Missing identification plate Damaged identification plate **MORTALITIES/INJURIES** Distance to nearest pole (ft.)_____ Number individuals Status: dead injured Species (circle one): Red-tailed Hawk Ferruginous Hawk Swainson's Hawk Golden Eagle Bald Eagle Osprey Peregrine Falcon Prairie Falcon Merlin American Kestrel Great Horned Owl Common Raven American Crow Unknown Cause of death/injury: Unknown Electrocution Shot Roadkill Other: Evidence of electrocution: Burnt feathers Burnt talons Burnt bill Exit wound Other: Status of carcass/remains: Buried Collected Left on-site Band number (if applicable) Directions Photo number _____Camera number _____ LIVE SPECIES OBSERVED Species (indicate number of individuals): Red-tailed Hawk_____ Ferruginous Hawk_____ Rough-legged Hawk _____ Swainson's Hawk ____ Golden Eagle ____ Bald Eagle ____ Peregrine Falcon ____ Prairie Falcon____ Merlin__ American Kestrel__ Osprey___ Northern Harrier__ Barn Owl___ Great Horned Owl Common Raven Unknown hawk Unknown eagle Unknown _____ Behavior (check all that apply, indicate species): Flying/Hunting _____ Courtship_____ Perched on Power Pole Perched in Tree/Cliff/Ground Other: Nest?_____ Species_____ Is nest active? Yes No Pole Diagram: NOTES Location of carcass For HWI use only: FWS Agent Date PacifiCom/Environmental____ Date

Observer(s) _	Date 6/11/07 Strand
,, –	Shoot 3 of 8



District 27/0	ngo Loo	rdout !	Circuit	Line	Name
Sagebrush/Shrub/ Mountain shrub	Grass Dry meado	ow Cropland/I	oply, indicate perce Pasture Salt desert : Aspen Wet meado	scrub Barren Riparian w Mudflat Open water	Residential/developed Other: M) we
Is the area: re	emote rural	suburban	er de maj digita e qui si		
POLE LOCATI	ION/IDENTIFI	CATION:			Missing Plate? Yes
Structure Numbe	ers (include both)				<u></u>
Coordinates (UT	M Zone 12): <u> </u>	3		N	Units: meters feet
POLE CONFIG	GURATION (Ci	rcle one. If pol	e does not match ar	ny shown, draw it on oth	er side of sheet.)
Single place				Is structure raptor sa Total no. energized c (if comer pole or underb direction, i.e. 3-3 or 3-2-	onductors 3-3 uilt, indicate number phases in each 1)
Single phase no crossarm	Single phase with crossarm	Two phase	Three-phase	Are there exposed pa	erts (such as transformers, mper wires)? Yes No
•			Three-phase	Location of ground w	erial: wood metal fiberglass
Three-phase crossarm lowered	Three-phase with two lines on one side, neutral down	Three-phase with t lines on each side neutral up	wo streamline	Below crossar Circle all that are pro	
		6		Circle if present: Pel	ch guard Perch lets Whitewash Prey remains s, mortalities, nests, or pole s* (*if yes, continue on other
Corner pole		ree-phase onfiguration pol	Three-phase e-mounted insulators	side)	

Broken insulator Broken crossarm Leaking transformer Broken/burned/leaning pole Broken guywire

Missing identification plate Damaged identification plate

MORTALITIES/INJURIES
Status: dead injured Number individuals Distance to nearest pole (ft.)
Species (circle one): Red-tailed Hawk Ferruginous Hawk Swainson's Hawk Golden Eagle Bald Eagle Osprey
Peregrine Falcon Prairie Falcon Merlin American Kestrel Great Horned Owl Common Raven American Crow Unknown
Cause of death/injury: Unknown Electrocution Shot Roadkill Other:
Evidence of electrocution: Burnt feathers Burnt talons Burnt bill Exit wound Other:
Status of carcass/remains: Buried Collected Left on-site Band number (if applicable)
Directions
Photo numberCamera number
LIVE SPECIES OBSERVED
Species (indicate number of individuals): Red-tailed Hawk Ferruginous Hawk
Rough-legged Hawk Swainson's Hawk Golden Eagle Bald Eagle Peregrine Falcon Prairie
Falcon Merlin American Kestrel Osprey Northern Harrier Barn Owl
Great Horned OwlCommon Raven Unknown hawk Unknown eagle Unknown
Behavior (check all that apply, indicate species): Flying/Hunting Courtship
Perched on Power Pole Perched in Tree/Cliff/Ground
Other:
Nest? Is nest active? Yes No
NOTES Pole Diagram:
Location of carcass
Facility Lass bally:
PWS AgentDate
PacifiCom/Environmental Date
PacifiCorp/District Manager

	Date_	6/1	1	62	
Observer(s) _	3. W	like			
`,'-	Sheet	4	of	8	



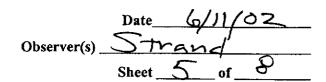
District	alage Land	Circuit	san isa na san na san sa	Line Name
HABITAT TY Sagebrush/Shrul Mountain shrub	YPE (Circle. If more than b/Grass Dry meadow Cro	one apply, indicate percen pland/Pasture Salt desert so uce/Fir/Aspen Wet meadow	of of each.) crub Barren Mudflat	Riparian Residential/developed Open water Other: LogAlt A
POLE LOCA	TION/IDENTIFICATION	· •		Missing Plate? Yes
Structure Numl	bers (include both)		<u> </u>	
Coordinates (U	TM Zone 12): <u>E</u>		N	Units: meters feet
POLE CONFI	GURATION (Circle one.	If pole does not match an	-	
No.			Total no. <u>en</u>	e raptor safe? Yes No nergized conductors e or underbuilt, indicate number phases in each 3-3 or 3-2-1)
Single phase no crossarm	Single phase Two phase with crossarm	Three-phase		transformersxposed parts (such as transformers,
			cutouts, arr Crossarm n Crossarm b	resters, jumper wires)? Yes No material: wood metal fiberglass race material: wood metal fiberglass ground wire:
Three-phase crossarm lowered	two lines on one side, lines on	Three-phase se with two streamline each side, ral up		at are present: Hose Bushing cap
			Are there li	esent: Pellets Whitewash Prey remains
Corner pole	Three-phase YS-configuration	Three-phase pole-mounted insulators	side)	

FWS Agent_____

PacifiCom/Environmental

PacifiCorp/District/Manager

Broken guywire Broken/burned/leaning pole Broken insulator Broken crossarm Leaking transformer Missing identification plate Damaged identification plate **MORTALITIES/INJURIES** Distance to nearest pole (ft.)_____ Number individuals _____ Status: dead injured Species (circle one): Red-tailed Hawk Ferruginous Hawk Swainson's Hawk Golden Eagle Bald Eagle Osprey Peregrine Falcon Prairie Falcon Merlin American Kestrel Great Horned Owl Common Raven American Crow Unknown Shot Roadkill Other: _____ Cause of death/injury: Unknown Electrocution Evidence of electrocution: Burnt feathers Burnt talons Burnt bill Exit wound Other: Status of carcass/remains: Buried Collected Left on-site Band number (if applicable) Directions Photo number _____Camera number _____ LIVE SPECIES OBSERVED Species (indicate number of individuals): Red-tailed Hawk_____ Ferruginous Hawk_____ Rough-legged Hawk _____ Swainson's Hawk ____ Golden Eagle ____ Bald Eagle ____ Peregrine Falcon ___ Prairie Falcon Merlin American Kestrel Osprey Northern Harrier Barn Owl Great Horned Owl____Common Raven____ Unknown hawk____ Unknown eagle____ Unknown____ Behavior (check all that apply, indicate species): Flying/Hunting _____ Courtship____ Perched in Tree/Cliff/Ground_____ Perched on Power Pole Other: Nest?_____ Species_____ Is nest active? Yes No Pole Diagram: NOTES Location of carcass Far FWI diseants





				THE STATE OF THE S	
District Va	go Loadous	Gircuit	er et er	Line Name	-14 14 Market Res
HABITAT TYPE (Sagebrush/Shrub/Grass Mountain shrub Is the area: remote	Circle. If more than on s Dry meadow Cropla Pinyon/Juniper Spruce te rura suburban	e apply, indicate percei	nt of each.) crub Barren	Riparian Residential/dev Open water Other: 1145	/eloped
POLE LOCATION	/IDENTIFICATION:			Missing Plate	? Yes
Structure Numbers (i	nclude both)			·	
Coordinates (UTM Z	one 12): <u>E</u>		N	Units: 1	meters feet
Single phase Sin	gle phase a crossarm Two phase	Three-phase	Is structure Total no. 6 (if corner podirection, i.e. Number of Are there cutouts, are Crossarm Crossarm	re raptor safe? Yes No energized conductors ole or underbuilt, indicate numb e. 3-3 or 3-2-1) f transformers exposed parts (such as transferesters, jumper wires)? material: wood metal brace material: wood metal	ber phases in each nsformers, Yes No fiberglass
crossarm lowered two lin	re-phase with lines on one side, lines on each neutral to the state of	ı side,	Circle all to Insulator con Circle if put Are there I damage?	that are present: Hose over Perch guard Perc resent: Pellets Whitewash	Prey remains
Corner pole	Three-phase YS-configuration	Three-phase pole-mounted insulators	side)		· · · · · · · ·

PacifiCorp/District Manager

Broken guywire Broken/burned/leaning pole Broken insulator Broken crossarm Leaking transformer Missing identification plate Damaged identification plate MORTALITIES/INJURIES Number individuals _____ Distance to nearest pole (ft.) Status: dead injured Species (circle one): Red-tailed Hawk Ferruginous Hawk Swainson's Hawk Golden Eagle Bald Eagle Osprey Peregrine Falcon Prairie Falcon Merlin American Kestrel Great Horned Owl Common Raven American Crow Unknown Shot Roadkill Other: Cause of death/injury: Unknown Electrocution Evidence of electrocution: Burnt feathers Burnt talons Burnt bill Exit wound Other: Status of carcass/remains: Buried Collected Left on-site Band number (if applicable) Directions____ Photo number _____ Camera number _____ LIVE SPECIES OBSERVED Species (indicate number of individuals): Red-tailed Hawk_____ Ferruginous Hawk____ Rough-legged Hawk _____ Swainson's Hawk ____ Golden Eagle ____ Bald Eagle ____ Peregrine Falcon ___ Prairie Falcon_____ Merlin___ American Kestrel___ Osprey___ Northern Harrier___Barn Owl____ Great Horned Owl Common Raven Unknown hawk Unknown eagle Unknown Unknown Behavior (check all that apply, indicate species): Flying/Hunting _____ Courtship_____ Perched in Tree/Cliff/Ground____ Perched on Power Pole Other: Nest?_____ Is nest active? Yes No Pole Diagram: NOTES Location of carcass Kill W. WEDITS FWS Agent Date PacifiCorp/Environmental

Observer(s)	Date_	T^{-}	7	02	
(-)	Sheet	6	•	8	



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District Towaga Loadout Circuit	Line Name
HABITAT TYPE (Circle. If more than one apply, ind	
Sagebrush/Shrub/Grass Dry meadow Cropland/Pasture	Salt desert scrub Barren Riparian Residential/developed
Mountain shrub Pinyon/Juniper Spruce/Fir/Aspen	Wet meadow Mudflat Open water Other: Mine
Is the area: remote rural suburban	
POLE LOCATION/IDENTIFICATION:	Missing Plate? Yes
Structure Numbers (include both)	
Coordinates (UTM Zone 12): E	N Units: meters feet
POLE CONFIGURATION (Circle one. If pole does no	ot match any shown, draw it on other side of sheet.)
	Is structure raptor safe? Yes No
	Total no. energized conductors 5
	(if corner pole or underbuilt, indicate number phases in each
	direction, i.e. 3-3 or 3-2-1)
	-phase Number of transformers
no crossarm with crossarm	Are there exposed parts (such as transformers,
	cutouts, arresters, jumper wires) Ves No
	Crossarm material: wood metal fiberglass
	Crossarm brace material: wood metal fiberglass
<u></u>	Location of ground wire:
Three-phase Three-phase with Three-phase with two str	ee-phase eamline Below crossarm At or above crossarm
rossarm lowered two lines on one side, lines on each side, neutral down neutral up	Circle all that are present: Hose Bushing cap
	Insulator cover Perch guard Perch
	Circle if present: Pellets Whitewash Prey remains
	Are there live raptors, mortalities, nests, or pole
7	damage? No Yes* (*if yes, continue on other
Corner pole Three-phase Three-pha YS-configuration pole-mounted in	

Broken insulator Broken crossarm Leaking transformer Broken/burned/leaning pole Broken guywire

Missing identification plate Damaged identification plate

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Status: dead injured Number individuals Distance	e to nearest pole (ft.)
Species (circle one): Red-tailed Hawk Ferruginous Hawk Swainson's Hawk	Golden Eagle Bald Eagle Osprey
Peregrine Falcon Prairie Falcon Merlin American Kestrel Great Horned Owl	Common Raven American Crow Unknown
Cause of death/injury: Unknown Electrocution Shot Roadkill Ot	her:
Evidence of electrocution: Burnt feathers Burnt talons Burnt bill Exit wo	und Other:
Status of carcass/remains: Buried Collected Left on-site Band num	aber (if applicable)
Directions	
Photo number Camera number	
LIVE SPECIES OBSERVED	
Species (indicate number of individuals): Red-tailed Hawk Ferru	iginous Hawk
Rough-legged Hawk Swainson's Hawk Golden Eagle	Bald Eagle Peregrine Falcon Prairi
Falcon Merlin American Kestrel Osprey Northe	rn HarrierBarn Owl
Great Horned OwlCommon Raven Unknown hawk Unknown	wn eagle Unknown
T	0 41:
Behavior (check all that apply, indicate species): Flying/Hunting	
Perched on Power Pole Perched in Tree/Cliff/Ground	
Other:	
Nest? Is nest active?	Yes No
NOTES	Pole Diagram:
	•
Location of carcass	
	•
the improved the	
For HWLaseconly:	
FWS-Agent Date	
PacifiCorp/Environmental Date	
PacifiCorp/District ManagerDate	

Date		11/02	
Observer(s) Shoot	and	Q	



District Davag	o Londout	<u>Circuit</u>	Line N	lame		
or as tracks of the first		e apply, indicate percen	医乳光探探 医二十二次分裂的电影			
Sagebrush/Shrub/Grass	Dry meadow Cropla	ind/Pasture Salt desert's	crub Barren Riparian	Residential/developed		
Mountain shrub	Pinyon/Juniper Spruce	e/Fir/Aspen Wet meadow	Mudflat Open wäter	Other: Ming		
Is the area: remot	e rural suburban					
POLE LOCATION	/IDENTIFICATION:			Missing Plate? Yes		
Structure Numbers (in	nclude both)					
Coordinates (UTM Z	one 12): <u>E</u>		N	Units: meters feet		
POLE CONFIGURA	ATION (Circle one. If	pole does not match an	y shown, draw it on othe	r side of sheet.)		
*		e 2 8 2	Is structure raptor saf			
			Total no. energized co	$\mathcal{L}_{\mathcal{L}}$		
				ilt, indicate number phases in each		
			direction, i.e. 3-3 or 3-2-1))		
70 0000000000	gle phase Two phase	Three-phase	Number of transforme	ers3		
no crossarm with	crossarm		Are there exposed par	ts (such as transformers,		
1			cutouts, arresters, jum	per wires)? Yes No		
			Crossarm material: 🕏	vood metal fiberglass		
	U	3/	Crossarm brace material: wood metal fiberglass			
fr	M J	Three-phase	Location of ground win			
	e-phase with Three-phase w	rith two streamline	Below crossarm	At or above crossarm		
	utral down neutral t		Circle all that are pres	ent: Hose Bushing cap		
	0		Insulator cover Perch	guard Perch		
			Circle if present: Pelle	ts Whitewash Prey remains		
A Comment			Are there live raptors,	mortalities, nests, or pole		
1			damage? (No Yes*	(*if yes, continue on other		
Corner pole	Three-phase YS-configuration	Three-phase	side)	•		

PacifiCorp/District Manager_____

Broken insulator Broken crossarm Leaking transformer Broken/burned/leaning pole Broken guywire Missing identification plate Damaged identification plate MORTALITIES/INJURIES Number individuals _____ Distance to nearest pole (ft.)_____ Status: dead injured Species (circle one): Red-tailed Hawk Ferruginous Hawk Swainson's Hawk Golden Eagle Bald Eagle Osprey Peregrine Falcon Prairie Falcon Merlin American Kestrel Great Horned Owl Common Raven American Crow Unknown Cause of death/injury: Unknown Shot Electrocution Roadkill Other: Evidence of electrocution: Burnt feathers Burnt talons Burnt bill Exit wound Other: Status of carcass/remains: Buried Collected Left on-site Band number (if applicable) Directions _____ Photo number _____ Camera number ____ LIVE SPECIES OBSERVED Species (indicate number of individuals): Red-tailed Hawk Ferruginous Hawk Rough-legged Hawk _____ Swainson's Hawk ____ Golden Eagle ____ Bald Eagle ____ Peregrine Falcon ___ Prairie Falcon_____ Merlin___ American Kestrel___ Osprey___ Northern Harrier___ Barn Owl____ Great Horned Owl____Common Raven____ Unknown hawk____ Unknown eagle____ Unknown____ Behavior (check all that apply, indicate species): Flying/Hunting Courtship Perched on Power Pole_____ Perched in Tree/Cliff/Ground Other:____ Nest?_____ Species_____ Is nest active? Yes No NOTES Pole Diagram: Location of carcass For HWLuse only: PWS Agent PacifiCorp/Environmental____ Date

HawkWatch International
Raptor Electrocution
Reduction Program

RERP Data Sheet 2002

YS-configuration

	Date_	6/11	100	
Observer(s) _				

each



Sheet 5 of

IF A MORTALITY WAS DOCUMENTED, CHECK HERE IF POLE HAS RAPTOR PROTECTION RUT IS NOT DAPTOD SAFE CHECK

	TION BUT IS NOT RAPTOR-SAFE, CHECK HERE
District Savage Load out Circuit	Line Name
HABITAT TYPE (Circle. If more than one apply, indicate possagebrush/Shrub/Grass Dry meadow Cropland/Pasture Salt de Mountain shrub Pinyon/Juniper Spruce/Fir/Aspen Wet me Is the area: remote rural suburban POLE LOCATION/IDENTIFICATION:	ercent of each.) sent scrub Barren Riparian Residential/developed eadow Mudflat Open water Other.
Structure Numbers (include both)	Missing Plate? Yes
Coordinates (UTM Zone 12):E	N Units: meters feet
	Is structure raptor safe? Yes No Total no. energized conductors (if corner pole or underbuilt, indicate number phases in each direction, i.e. 3-3 or 3-2-1) Number of transformers
Single phase Single phase Two phase Three-phase no crossarm with crossarm	Are there exposed parts (such as transformers,
Three-phase Three-phase with two lines on each side, Three-phase with two lines on each side,	Crossarm material: wood metal fiberglass Crossarm brace material: wood metal fiberglass Location of ground wire: Below crossarm At or above crossarm
Three phase	Circle all that are present: Hose Bushing cap Insulator cover Perch guard Perch Circle if present: Pellets Whitewash Prey remains Are there live raptors, mortalities, nests, or pole damage? No Yes* (*if yes, continue on other side)
Corner pole Three-phase Three-phase	/

pole-mounted insulators

Broken insulator Broken crossarm Leaking transformer Broken/burned/leaning pole

Missing identification plate Damaged identification plate

MORTALITIES/INJURIES

Status: dead injured Number individuals Distance to nearest pole (ft.)
Species (circle one): Red-tailed Hawk Ferruginous Hawk Swainson's Hawk Golden Eagle Bald Eagle Osprey
Peregrine Falcon Prairie Falcon Merlin American Kestrel Great Horned Owl Common Raven American Crow Unknown
Cause of death/injury: Unknown Electrocution Shot Roadkill Other:
Evidence of electrocution: Burnt feathers Burnt talons Burnt bill Exit wound Other:
Status of carcass/remains: Buried Collected Left on-site Band number (if applicable)
Directions
Photo numberCamera number
LIVE SPECIES OBSERVED
Species (indicate number of individuals): Red-tailed Hawk Ferruginous Hawk
Rough-legged Hawk Swainson's Hawk Golden Eagle Bald Eagle Peregrine Falcon Prairi
Falcon Merlin American Kestrel Osprey Northern Harrier Barn Owl
Great Horned OwlCommon Raven Unknown hawk Unknown eagle Unknown
Behavior (check all that apply, indicate species): Flying/Hunting Courtship
Perched on Power Pole Perched in Tree/Cliff/Ground
Other:
Nest? Species Is nest active? Yes No
NOTESPole Diagram:
Location of carcass
Partiffication:
PWS Agent
PacifiCopyEnvironmental Date
PacifiCorp(District Manager

Broken guywire

Appendix C



Photo 1. Wildcat Loadout. The three phase pole-mounted insulators were considered safe design when constructed in the early 1980's. Current designs allow greater distance between insulators and poles.



Photo 2. Deer Creek Mine. The complicated power pole and line configurations direct power to several locations. These complicated arrangements place numer-



Photo 3. Savage Loadout. Energized lines less than 60 inches apart were retrofitted with inappropriate perch guards.



Photo 4. Savage Loadout. Transformers convert voltage to a specific usable level. Exposed wires and bushings pose electrocution risks.